Estimates of survival and costs are identical for cisplatin-paclitaxel and cisplatin-gemcitabin. There was a higher incidence of severe toxicities with cisplatin-gemcitabin, but differences in QoL are still to be determined. Gemcitabin-paclitaxel is a dominated option with higher costs and non-superior survival.

CN3

IMMUNOTHERAPY WITH AUTOLOGOUS TUMOR CELL-BCG VACCINE (ONCOVAX®) IN PATIENTS WITH STAGE II COLON CANCER: MEDICAL AND ECONOMIC BENEFITS

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OBJECTIVES: Colon cancer is one of the most common malignancies in developed countries. Surgery is the primary treatment modality for this disease. However, by the time the patient presents with recurrent symptoms, the disease is rarely curable by surgery even when combined with other therapy. The aim was to assess the clinical and economic outcomes of OncoVAX®. therapy in stage II colon cancer patients. **METHODS:** We have completed a prospectively randomized, controlled clinical trial of patients with Stage II colon cancer with active specific immunotherapy (ASI) using autologous tumor cell with an immunomodulating adjuvant bacillus Callmette-Guérin (BCG) vaccine (OncoVAX) in an adjuvant setting. Patients were randomized to either a control group or (OncoVAX) therapy, after surgical resection of the primary tumor and stratification by stage of disease. The cost analysis consisted of the direct health care costs. For the model, the costs and probabilities of the several interventions, disease stages and follow-up have been calculated. Survival and recurrence free survival were used from the clinical study. Utility values were derived from the literature. **RESULTS:** OncoVAX significantly improved survival and recurrence-free survival. The number of life years in the OncoVAX group amounted to 6.96 and in the control group 6.17. The number of recurrence-free life years gained is approximately 1.14 more in the OncoVAX group. The average costs per patient in the OncoVAX group amounted to US$20,395 and in the control group US$4,958. The costs per life year gained amounted to US$19,541 and the costs per QALY amounted to US$20,489. The total discounted cost-effectiveness ratio was US$22,660 and the discounted cost-utility ratio amounted to US$23,675 (discount rate: 4%). **CONCLUSION:** This study shows that OncoVAX is an effective treatment modality for patients with stage II colon cancer with a cost-effectiveness ratio in the range of other oncological treatments.

CARDIOVASCULAR DISEASES/DISORDERS STUDIES

CV1

COST-EFFECTIVENESS OF FONDAPARINUX VS ENOXAPARIN AS PROPHYLAXIS AGAINST VENOUS THROMBOEMBOLISM FOLLOWING ORTHOPAEDIC SURGERY

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OBJECTIVES: Patients undergoing major orthopaedic surgery are at risk of deep vein thrombosis, pulmonary embolism and subsequent complications, some of which may be fatal. For this reason post-operative prophylaxis is recommended. Enoxaparin is the most frequently used chemical prophylaxis in the UK. Fondaparinux is a novel antithrombotic whose efficacy has been demonstrated, but whose cost-effectiveness has not been assessed. We evaluated the cost-effectiveness of fondaparinux relative to enoxaparin over a period of five years post-surgery. **METHODS:** We modeled the impact of fondaparinux on patient outcomes and costs to the UK National Health Service (NHS). Outcomes are thromboembolitic events (symptomatic deep vein thrombosis, pulmonary embolism) and death. Data on the incidence of thromboembolitic events were derived from four randomised clinical trials comparing enoxaparin with fondaparinux, and from a review of the literature. Resource consequences were estimated from a survey of UK hospitals and discussions with a panel of clinical experts. Costs were estimated using mean national costs to the NHS. **RESULTS:** Fondaparinux dominates enoxaparin for all of the surgery groups studied. The number of venous thromboembolic events (VTE) averted with fondaparinux is 15 per 1000 procedures (Total Hip Replacement), 19.5/1000 (Total Knee Replacement), 23.3/1000 (Hip Fracture Surgery) and 19.2/1000 (All Procedures). The number of VTE-related deaths averted is 0.8/1000 (THR), 0.8/1000 (TKR), 5.9/1000 (HFS) and 3.1/1000 (All Procedures). Fondaparinux reduces expected cost per patient by £18 (THR), £41 (TKR), £30 (HFS) and £29 (All Procedures). **CONCLUSIONS:** Compared with current practice in the UK, fondaparinux is cost-effective. This conclusion is sensitive to the relative price difference between enoxaparin and fondaparinux, but it is robust to variations in all of the other key parameters in the model. We estimate that using fondaparinux could reduce NHS costs by £3.8 million annually.

CV2

ESTIMATION OF EXPENDITURES FOR CORONARY HEART DISEASE (CHD) IN GERMANY

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OBJECTIVES: Health care costs incurred for particular diseases express priorities and can show future directions for targeting resources. Because these costs are difficult to obtain, there are hardly any reliable estimates in Germany. The analysis intends to show a new approach to estimate expenditures for CHD borne by the statutory health insurance in Germany. **METHODS:** We identified roughly 4 million individuals by pre-selected indicator medications for five different diseases namely asthma, diabetes, heart failure, hypertension and CHD. Individuals were selected for inclusion if these indicator medications were administered to them at least once in the year 1999. Indicator medications for CHD were nitrates and molsidomine. Expenditures for individuals with CHD were compared to average age- and gender-specific expenditures for individuals without CHD. To find the portion of the difference, which could be attributed to CHD on the one hand and to other diseases on the other hand, the strong correlation of disease occurrence was accounted for in a stepwise procedure. **RESULTS:** Approximately half of the cost difference between CHD-cases and non-CHD cases could be explained by the presence of CHD and the other half by concurrent diseases. The total costs attributed to CHD sum up to some $5 billion. As a whole the statutory health insurance spends roughly $130 billion per year. **CONCLUSIONS:** Compared with the total health care budget, CHD accounts for roughly 4% of health care expenditures if inter-disease correlations are considered. This amount seems low given the fact that CHD accounts for more than 20% of deaths in Germany. The strong interactivity of disease concerning health care costs might imply that they should not be looked at in isolation.

CV3

MULTI-COUNTRY COMPARISON OF HYPERTENSION COSTS FROM HOSPITALIZATIONS AND AMBULATORY CARE

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OBJECTIVES: To compare hospital, procedural, and ambulatory hypertension costs across eight countries (Australia, Canada, France, Germany, Italy, Spain, UK and the US) and document factors to consider when making multinational comparisons. **METHODS:** Data was obtained from health economics resources in each country and an international literature search. Public and private sources such as UK's Royal London NHS Trust, Personal Social Services Research Unit, and NHS Executive were used. Data tables captured four hypertension-related events: Acute Myocardial Infarct (AMI), Congestive Heart Failure (CHF), Stroke, and Renal Failure (RF). All costs were converted into US Dollars for the year 2000. **RESULTS:** There are considerable international variations in the hospitalization, procedural and ambulatory hypertension treatment costs. These differences can be explained partially by the source of payment, measurement of overhead, physician and hotel fees, and prevailing practice patterns, as well as whether accounting costs or actual expenditures were used. US costs appear to be higher for AMI, stroke and renal failure hospitalizations, while CHF hospitalization costs are similar across countries. The reported AMI hospitalization cost, as a percentage of the US cost, ranges from 7.1% (UK) to 43.5% (Spain). The UK and Australia appear to have the lowest hospital-related and ambulatory costs across all four events. Ambulatory costs for 1 year after an AMI, CHF, transplantation or stroke hospitalization are highest in the US. Typically the procedural and line item costs were higher in the US than in other countries. Reported CABG procedure costs ranged from 2.6% (France) to 51.8% (Italy) of US costs. **CONCLUSIONS:** We found wide variation in captured and reported costs for hypertension-related hospitalizations, procedures, and ambulatory care. Health services researchers should be cautious when constructing or interpreting international comparisons, particularly in differentiating between actual cost differences, differences in definition of services measured, and national practice patterns.

INFECTIOUS DISEASE STUDIES I

IN1

A BAYESIAN APPROACH TO NET HEALTH BENEFITS: AN ILLUSTRATION AND APPLICATION TO MODELING HIV PREVENTION

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OBJECTIVES: The present study presents a Bayesian cost-effectiveness analysis of HIV prevention in the instance when costs and effects cannot be measured directly. **METHODS:** A Bayesian approach to cost-effectiveness analysis was illustrated using empirical data from an HIV prevention randomized trial. We computed incremental net health benefit (INHB), and the analysis was conducted from the societal perspective. Intervention costs were estimated retrospectively. Clients were randomized into an intervention (advocacy training) (N = 15) or comparison condition (N = 15). Risk behavior data were collected at baseline and three months after the end of each intervention. In the Bayesian framework, we considered what could occur in a conceptual future study that is an identical replicate to the one actually conducted. Using posterior distribution of the behavior parameters, we sampled 5000 replicates. With the use of a Bernoulli model of HIV transmission, changes in the participants' HIV risk were combined with HIV transmission parameters (drawn from their respective prior distributions) and